OIPE
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PATENT & TRADEMARK OFFICE

SUBSTITUTE SPECIFICATION

PARTIAL RESPONSE DEMODULATING METHOD AND
APPARATUS USING THE SAME

CROSS-REFERENCE TO RELATED APPLICATION

The present application is a continuation of

application Serial No. 09/124,840, filed July 30, 1998,

now U.S. Patent No. 6,337,889, which relates to subject

10   matter described in U.S. application Serial No.

08/975,670, filed November 28, 1997 entitled AINFORMATION

RECORDING/REPRODUCING METHOD AND APPARATUS USING EPRML

CONNECTION PROCESSING SYSTEM, now U.S. Patent No.

6,069,856, the disclosure of which is hereby incorporated

15   by reference.

BACKGROUND OF THE INVENTION

The present invention is generally related to a

signal processing system for either a magnetic disk

20   apparatus or an optical disk apparatus. More

specifically, the present invention is directed to a

high-efficiency demodulating method of a high-order

partial response system such as an EEPRML (Extended

Extended Partial Response Maximum Likelihood) signal

25   processing system and an EEEPRML (Extended EEPRML) signal

processing system.

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Specification

1. The substitute specification filed 8/10/2005 has been entered because it conforms to 37 CFR 1.125(b) and (c) because: a marked-up copy of the substitute specification has been supplied (in addition to the clean copy).

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Carl Brundidge on 09/13/2005:

3. **SUBSTITUTE SPECIFICATION**:

   a. Pg. 17, line 7, delete "$C , D+...+C_nD_n$", insert "$C_1D+...+C_nD^n$"

   b. Pg. 23, line 9, delete "C_{nD}^n", insert "C_nD^n".

4. **Listing of Claims**:

   a. Claim 17, line 5, delete "D_n", insert "D^n".

   b. Claim 18, line 5, delete "D_n", insert "D^n".

   c. Claim 19, line 5, delete "D_n", insert "D^n".

   d. Claim 19, line 8, delete "D^2", insert "D".

e.   Claim 20, line 5, delete "D_n", insert "D^n".

f.   Claim 21, line 5, delete "D_n", insert "D^n".

g.   Claim 21, line 9, delete "D_3", insert "D^3".

h.   Claim 22, line 5, delete "D_n", insert "D^n".

i.   Claim 22, line 9, delete "-", insert "+".

j.   Claim 23, line 2, delete ";", insert "having a waveform of $(1-D^2)(c_0 + c_1 D +$ ... $c_n D^n)$".

k.   Claim 23, line 5, delete ".", insert ","

l.   Claim 23, line 6, insert "wherein said coefficients $(c_0, c_1, ... c_n)$ are integer numbers and $(1-D^2)$ is the partial response characteristic of said input signal.".

m.   Claim 27, line 4, delete ";", insert "having a waveform of $(1-D^2)(c_0 + c_1 D +$ ... $c_n D^n)$".

n.   Claim 27, line 6, delete ".", insert ",".

o.   Claim 27, line 7, insert "wherein said coefficients $(c_0, c_1, ... c_n)$ are integer numbers and $(1-D^2)$ is the partial response characteristic of said input signal.".

REASONS FOR ALLOWANCE

1.   The following is a statement of reasons for the indication allowable subject matter: The instant application discloses a signal processing circuit. Prior art references show similar methods but fail to teach: **"a discrete filter converting the output from said equalizer into an asymmetrical waveform of $(1-D^2)(c_0 + c_1D + \ldots c_nD^n)$"**, as in claims 17, 18, 19, 20, 21, 22; **"a discrete filter converting an input signal into an asymmetrical response having a waveform of $(1-D^2)(c_0 + c_1D + \ldots c_nD^n)$"**, as in claim 23; **"a discrete filter converting the output from said equalizer into an asymmetrical response having a waveform of $(1-D^2)(c_0 + c_1D + \ldots c_nD^n)$"**, as in claim 27.

Conclusion

2.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.
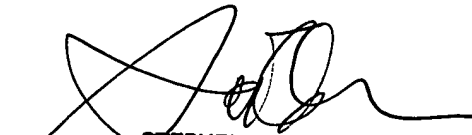
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

3900.

Cicely Ware

cqw
September 13, 2005

STEPHEN CHIN
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